

INTRODUCTORY COMMENTS

Summary of the Office Action

Claims 1-12, 15 and 16 were pending in the application.

Claims 1-5 and 15 were rejected under Section 103(a) “as being unpatentable over Roberto (US 4,975,068) in view of Lam (US 5,928,029).”¹

Claims 6-11 were rejected under Section 103(a) “as being unpatentable over Roberto (US 4,975,068) in view of Lam (US 5,928,029) and in further view of Regnier (US 5,163,847).”

Claims 12 and 16 were objected to solely for depending on a rejected base claim.

Summary of Applicants’ Response

Applicant thanks the Examiner for merely objecting to claims 12 and 16 for depending on a rejected base claim and respectfully submits that the prior art cited by the Examiner does not render obvious pending claims 1-11 and 15.

REMARKS

Claims 1-5 and 15

In the Final Office Action mailed on October 6, 2004, the Examiner rejected claims 1-5 and 15 as “unpatentable over Roberto (US 4,975,068) in view of Lam (US 5,928,029).”

¹ Based upon the reference numerals used by the Examiner, Applicant will assume that the Examiner’s citation to “Roberto (US 4,975,068)” and “Roberto” throughout the April 7, 2005 Final Office Action reflects the Examiner’s reliance on U.S. Pat. No. 5,350,319 to Roberts and not U.S. Pat. No. 4,975,068 to Squires.

With regard to claims 2, 4 and 15, the Examiner argued that “Roberto discloses a connector comprising: a housing (1); two flexible circuits (12) having contact areas (13); pusher members (7); fitting aperture (18); insertion openings (36); and a position means (4, 5)” and concluded that “Robert[s] substantially disclose[s] the claimed invention except the pushing member being a U-shaped member.” Office Action at page 2.

Applicant agrees with the Examiner that Roberts does not disclose “the pushing member being a U-shaped member.” Roberts’ “two springs (7)” are clearly not unitary and, rather than being configured in a U-shape, are configured in an X-shape. FIG. 2, col. 3, lines 57-65 and col. 4, lines 4-10. However, Applicant respectfully submits that Roberts also fails to disclose or suggest other limitations of claim 2, including the limitations of “a fitting aperture into which two flexible printed circuit boards are inserted” and “when said flexible printed circuit boards are inserted into said fitting aperture of said housing, contact portions of said two flexible printed circuit boards are urged by said pusher members so as to be connected to each other.”

Roberts discloses “two flexible circuits (12)” that are clamped into place by the unitary structure of the connector. Col. 4, lines 12-15. Roberts’ “fitting aperture (18)” is further disposed on the opposite side of the connector from the clamped portions of the “two flexible circuits (12).” FIG. 2. Accordingly, Roberts’ “two flexible circuits (12)” are fixed and cannot be inserted into “fitting aperture (18).” Thus, Roberts neither discloses nor suggests the limitation of claim 2 of “a fitting aperture into which two flexible printed circuit boards are inserted.”

Roberts further discloses “a connector for connecting electrical conductor areas of a flexible circuit with conductor pads of an edge connector portion of a circuit board.” Col. 2, lines 8-11. Furthermore, “[t]he connector 1 defines an opening 18 having a chamfered entrance leading to a passage 36 for receiving and accurately registering an edge connector portion of a circuit board [35] for connection of contact pads 19 thereof to the contact areas 13 [of the two flexible circuits 12]. Col. 4, lines 24-28 and FIGS. 11 and 5. Accordingly, Roberts connector discloses connection between the contact areas 13 of two flexible circuits 12 and the contact pads 19 of a *single circuit board* 35 when the *single circuit board* 35 is inserted into “fitting aperture” 18. See FIGS. 1, 2 and 11. Thus, Roberts neither discloses nor suggests the limitation of claim 2 of “when said flexible printed *circuit boards* are inserted into said fitting aperture of said housing, contact portions of said two flexible printed *circuit boards* are urged by said pusher members *so as to be connected to each other*.” (emphasis added).

With further regard to claims 2, 4 and 15, the Examiner argued that “Lam teach[es] a U-shaped unitary member” and on this basis concluded that “[i]t would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the pushing member of Robert[s] by a U-shaped unitary pushing member, as taught by Lam for reducing assembling time.” Office Action at page 2. Applicant respectfully disagrees. Neither Roberts nor Lam disclose or suggest the limitation of U-shaped unitary pusher member.

Lam discloses a “connector 10 [that] generally includes . . . a plurality of conductive terminals 12,” col. 4, lines 29-31, and for which:

Each terminal [12] includes a pin portion 19 and two contact arms 20 in a U-shaped configuration. Contact arms

20 include J-shaped portions, the ends of which face inward. The terminals **12** must be made as to permit resilient outward deflection of the contact arms without damaging the terminals.

Col. 4, lines 55-61 and FIGS. 2-6. Accordingly, each terminal **12** comprises a single pin portion **19** that extends in opposition to the U-shaped contact arms **20**, such that terminals **12** are in fact either “P-shaped” or “Y-shaped,” depending on whether they are formed in a straight line or a right angle configuration. Col. 4, lines 55-61 and FIGS. 2-6. Thus, notwithstanding the Examiner’s argument to the contrary, Lam does not disclose or suggest the limitation of claim 2 of “pusher members hav[ing] a substantially U-shape that are formed in a unitary part.”

Accordingly, Applicant respectfully submits that claim 2 cannot be rendered obvious by Roberts and Lam for at least the reason that neither of these references disclose or suggest the limitations of “a fitting aperture into which two flexible printed circuit boards are inserted,” “when said flexible printed circuit boards are inserted into said fitting aperture of said housing, contact portions of said two flexible printed circuit boards are urged by said pusher members so as to be connected to each other to achieve electrical continuity of the connector” and “pusher members hav[ing] a substantially U-shape that are formed in a unitary part.” Applicant further submits that, because claims 4 and 15 depend on currently amended claim 2, and so contain all of its limitations, claims 4 and 15 cannot be rendered obvious by the Roberts and Lam references.²

² Though not rejected on such ground by the Examiner, Applicant notes that those parts of multiply dependent claim 5 that depend from claim 4 contain all of the limitations of claim 2, and so would also not be rendered obvious by Lam and Roberto.

Applicant respectfully submits that, because claims 2, which recites the limitation of “two flexible printed circuit boards” is not rendered obvious by Roberts and Lam, claim 1, which differs from claim 1 in reciting the limitation of “at least three flexible printed circuit boards,” cannot be rendered obvious by recourse to the argument that “mere duplication of the essential working parts of a device involves only routine skill in the art.” Office Action at page 3.

Applicant further respectfully submits that, because claim 1 is not rendered obvious by Lam and Roberts, claim 3 and those parts of multiply dependent claim 5 that depend from claim 3 contain all of the limitations of claim 1 and so cannot be rendered obvious by reliance on these references.

Claims 6-11

In the Final Office Action mailed on October 6, 2004, the Examiner rejected claims 6-11 as “unpatentable over Roberto (US 4,975,068) in view of Lam (US 5,928,029) in further view of Regnier (US 5,163,847).” Applicant respectfully disagrees.

Claims 6-11 depend from claim 5 and so contain all of its limitations. As set forth above, because claim 5 is not rendered obvious by Roberto and Lam, Applicant respectfully submits that claims 6-11 cannot be rendered obvious by the Examiner’s reliance on Regnier’s disclosure for “a circuit (1) having a slit (16).” Office Action at page 3.

Claims 12 and 16

Applicant thanks the Examiner for merely objecting to claims 12 and 16 for depending on a rejected base claim, but respectfully declines to rewrite these claims

in independent form, arguing instead that, because the base and intervening claims are allowable, claims 12 and 16 are also allowable.

CONCLUSION

Applicant respectfully submits that this application is in a condition for allowance and such disposition is earnestly solicited. Applicants believe that no fees are due. In the event that any fees are due, please charge undersigned's Deposit Account No. 02-4377.

Respectfully submitted,



Paul A. Ragusa
PTO Reg. No. 38,587
(212) 408-2588

David Loretto
PTO Reg. No. 44,374
(212) 408-2584

Attorneys for Applicant

BAKER BOTTS L.L.P.
30 Rockefeller Plaza
New York, NY 10112